

**BRIEF FOR APPELLEE DIRECTOR OF THE
UNITED STATES PATENT AND TRADEMARK OFFICE**

**UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT**

02-1509
(Serial No. 09/054,564)

IN RE JACK RICHARD SIMPSON

Appeal from the United States Patent and Trademark Office,
Board of Patent Appeals and Interferences.

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Representative Claim on Appeal

1. A rotary cutting die for cutting corrugated board and trimming an outside trim piece from the corrugated board so as to yield a product portion comprising:
 - (a) a base adapted to be mounted to a rotary cylinder;
 - (b) at least one trim cutting blade secured to the base and extending outwardly therefrom for trimming an outside trim piece from a sheet of corrugated board; and
 - (c) at least one trim stripper mounted outside the trim cutting blade for engaging the trim piece and stripping the trim piece from the product portion, the trim stripper including an angled outer stripper surface that is angled outwardly and away from the trim blade in such a fashion that at least a portion of the angled outer stripper surface extends outwardly past the height of the trim blade.

A11 (emphasis added).

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RULE 47.5 STATEMENT OF RELATED CASES

(a) No other appeal from the Board of Patent Appeals and Interferences in connection with the patent application on appeal has previously been before this or any other court.

(b) There is no known related case pending in this or any other court.

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Board of Patent Appeals and Interferences.

I. STATEMENT OF THE ISSUE

The Board found that Smithwick anticipates the claimed rotary cutting die because it discloses all the limitations including a “trim cutting blade” and a “trim stripper.” Is there substantial evidence in the record to support the findings?

II. STATEMENT OF THE CASE

The examiner rejected Simpson’s original claims, 1-44, as being anticipated pursuant to § 102(e) by Smithwick¹. A63-73. In response, Simpson amended many of the claims and subsequently withdrew claims 36-44. A87-90. The examiner

¹ U.S. Patent No. 5,636,559.

ultimately allowed 28 claims, A94-98, but rejected claims 1, 3, 5, 8, 9, 28, and 29 as anticipated by Smithwick. A100-103. Appellant appealed the rejected claims to the Board of Patent Appeals and Interferences. The Board affirmed the examiner's rejection of claims 1, 3, 5, 8, 9, 28 and 29, although separate arguments regarding claim 3 were apparently overlooked. Appellant now appeals to this Court.

III. STATEMENT OF FACTS

A. The Claimed Invention: A Cutting Die (and Method) For Cutting Corrugated Board

Simpson's claimed invention is a rotary cutting die (and method of using it) for cutting a sheet of corrugated board into individual products. A11-15². The finished products are typically boards of various sizes that have been cut and scored so that they can be folded and glued into boxes. During the cutting process, unwanted (non-product) material is produced. Throughout the brief, the term "product" is used to refer to the scored/cut boards that are used/sold once cut from the larger corrugated board, in contrast the term "unwanted material" is used to refer to the excess corrugated board that is eventually discarded or recycled.

The unwanted material cut from the corrugated board can cause at least two problems: pieces can remain in the cutting apparatus and clog the system, and they can remain with the final product. A18-19. Simpson's claims are directed at a rotary cutting die that directs the unwanted material away from the finished product and the

² References to the Appendix are designated "A__." References to Simpson's brief are designated "Br. __."

cutting die.

One embodiment of the claimed invention is presented in Figure 1, shown on the facing page. A51. In this embodiment, a sheet of corrugated board (referred to as "CB") is fed into a pair of continuously rotating drums 30. A29. Attached to the upper drum is base 42, which has multiple cutting blades, e.g., 46 and 44, mounted to it. A51.

As the drum rotates, the blades cut the board into pieces. A30-32. The result is (i) a finished product portion and (ii) pieces of unwanted material. A31-32. The finished product portion emerges from the other side of the drums cut to a particular shape that may be folded into a container. A84, col. 1, ll. 16-21. The unwanted material also emerges from the other side of the drums. Simpson's invention is directed to better controlling the ejection of this unwanted material. A22, A31.

The asserted novel aspect of the claimed invention is trim strippers 10 shown adjacent to cutting blades 44 and 46 in Figure 1. A17. Trim strippers 10 are resilient pieces, taller than the cutting blades, which are designed to compress between corrugated board CB and base 42 during the cutting process. A30. The compression of trim stripper 10 creates pressure on one, unwanted, part of the board and allows that unwanted material to be more easily discarded from the die after it is cut away from the product. A30-31.

An example of this compression is depicted in Figures 4A-F (shown on the following facing page), which show a cross-section of rotary cutting die 42 as it begins to cut a product from board CB. A27, A53-55. Board CB is engaged by one of the

trim strippers 10 and cut by one of the blades 44. A30-31. The trim stripper 10 pins the unwanted material, labeled “scrap 62” or “trim scrap 62” in the specification, to lower drum 50 and forces it away from the path of board CB. A30-31.

Although Simpson’s preferred embodiment includes multiple blades 44 and 46 (i.e., trim cutting blades) that cut or score the board and multiple resilient trim strippers 10 that direct the unwanted portions of the board away from the product. A31. But Simpson’s claims require only one trim cutting blade and only one trim stripper.

Representative claim 1³ reads:

1. A rotary cutting die for cutting corrugated board and trimming an outside trim piece from the corrugated board so as to yield a product portion comprising:
 - (a) a base adapted to be mounted to a rotary cylinder;
 - (b) at least one trim cutting blade secured to the base and extending outwardly therefrom for trimming an outside trim piece from a sheet of corrugated board; and
 - (c) at least one trim stripper mounted outside the trim cutting blade for engaging the trim piece and stripping the trim piece from the product portion, the trim stripper including an angled outer stripper surface that is angled outwardly and away from the trim blade in such a fashion that at least a portion of the angled outer stripper surface extends outwardly past the height of the trim blade.

³ Claims 5, 8 and 9 depend from claim 1 but were not argued separately in Simpson’s Brief. Hence claims 5, 8 and 9 stand or fall with claim 1. Claim 29 depends from claim 28 but has not been argued separately and stands or falls with claim 28.

A11 (emphasis added). Claim 28 is a method claim that is directed essentially to using the cutting die apparatus of claim 1.

B. The Prior Art: Smithwick

The examiner rejected the claims 1, 3, 5, 8, 9, 28, and 29 under § 102(e) based on Smithwick. Smithwick, A76-A86, discloses “a cutting die for producing a container or carton blank from a sheet material, such as corrugated paper board.” A84, col. 1, ll. 6-8. Like the claimed invention, Smithwick’s cutting die includes resilient pieces, described as elastomeric “scrap ejector 10,” that direct unwanted portions of the board away from the final product. A84, col. 1, ll. 8-10. A85, col. 3, ll. 26-30.

Smithwick’s Figure 2 (shown on the facing page) depicts a cutting die apparatus with rubber scrap ejectors 10. A78. Smithwick describes Figure 2 as showing “cutting die 108 [that] includes a die board 110 from which steel cutting rules 112 project.” A85, col. 3, ll. 6-7. In this particular configuration, some of the cutting rules 112, i.e., cutting blades, are U-shaped. The purpose of the U-shaped blade is to cut away material from the board and thereby produce a finished product having slots for flaps or tabs. A85 col. 3, ll. 15-18. Scrap ejector 10 is placed between the two elongated sides of U-shaped blade 112 shown in Figure 2, and used to hold the unwanted scrap against the opposite cylinder 104 so that the scrap is stripped from the board. A85, col. 3, ll. 64-67.

Smithwick also explains how the scrap ejector functions when the cutting die is

used in operation:

The height of the scrap ejector **10** is such that the outer faces **24** extend beyond the cutting edges of the rule **112** to ensure proper ejection of the scrap. When the scrap ejector **10** is compressed as the die moves into contact with a corrugated paper board, the scrap ejector **10** is easily deformed. ... As the scrap ejector **10** passes through the rotary die, it holds the scrap against the anvil cylinder **104** so that the scrap is stripped from the blank.

A85, col. 3, ll. 55-67.

C. The Board's Decision

The Board sustained the rejection of representative claim 1 as anticipated under § 102(e) by Smithwick. A7. The Board found that Smithwick teaches every element of claim 1. The Board specifically found that claim 1's "rotary cutting die" was disclosed by Smithwick's "rotary die cutter **100**," A3, which is shown in Smithwick's Figure 1. A77. Similarly, element (a)'s "base adapted to be mounted to a rotary cylinder" was found in Smithwick's "die board **110**," which is adapted to mount Smithwick's "die roll **102**." A3. Element (b)'s "at least one cutting blade" was found disclosed by Smithwick's "U-shaped cutting rule **112**." A3, See also A85, col. 3, l. 19. And element (c)'s "at least one trim stripper" was found in the "scrap ejector **10**" disclosed by Smithwick. A3. See also A85, col. 3, ll. 26-28. Finally, Smithwick's scrap ejector **10** was found to have "an angled outer stripper surface that is angled outwardly and away from the blade in such a fashion that at least a portion of the angled outer stripper surface extends outwardly past the height of the blade." A3-4.

For that finding, the Board relied on Smithwick's Figures 2 and 3, A78-79, to show that the lugs on each scrap ejector **10** has angled side walls **20, 22** extending outwardly and away from the cutting rule **112** and on Smithwick, col. 3, lines 55-58, to satisfy the height requirement. A4.

Before the Board, Simpson argued that Smithwick's scrap ejectors were positioned "inside" the trim cutting blades, instead of "outside," as required by claim 1. A4. The Board disagreed, giving two reasons for its finding. First, since claim 1 does not define which side of the "trim cutting blade" is the outside, it is reasonable to regard either side of Smithwick's U-shaped cutting rule **112** as the outside. A4. Second, Smithwick's scrap ejectors **10** are located on the side of the U-shaped rule **112** that is "outside" the boundary of the finished product area created by the blades, and therefore, each ejector is mounted "outside" a trim cutting blade. A4. Essentially, the Board found that the limitation "outside the trim cutting blade" corresponds to the area beyond the perimeter of the product that contains unwanted material.

Simpson also asserted that the unwanted material cut out by Smithwick's U-shaped cutting rules **112** should not be considered "trim." A4. According to Simpson, Smithwick's U-shaped cutting rules **112** are not "trim cutting blades," and Smithwick's scrap ejector **10** is not a "trim stripper." The Board rejected the premise of Simpson's assertion, noting that an "outside trim piece" is any piece of unwanted material trimmed off the board to create the exterior edge of the product. A4-5. Once again, the Board associated "outside" with the area beyond the product cutting blades. Accordingly, the Board found that the scrap removed by Smithwick's scrap ejector

10 are “outside trim pieces.” Accordingly, the Board affirmed the rejection of representative claim 1.

Regarding method claim 28, the Board again pointed to Smithwick’s corresponding elements and portions of Smithwick’s specification, finding that each element of claim 28 is anticipated by Smithwick. A6. Specifically, the Board found that element (a), “directing” the corrugated board between the rotary cutting die and the rotating anvil, was disclosed by Smithwick’s upper die roll 102 and anvil roll 104 being driven in opposite directions with sheet material being fed between the two. A6, Citing A84, col. 2, ll. 61-64. The Board found that element (b), “engaging” the board with trim stripper 10, was disclosed in Smithwick’s use of the scrap ejector 10 to hold the scrap against the anvil cylinder so that the unwanted material is stripped from the blank. A6, Citing A85, col. 3., ll. 64-66. The Board found that element (c), “cutting” the trim from the board while compressing the trim stripper between the die and the trim, was disclosed in Smithwick’s use of the U-shaped cutting rule 112 while compressing scrap ejector 10 between the die roll 102 and the corrugated board CB as the board passes between the die and anvil rolls. A6, Citing A85, col. 3, ll. 58-62. Finally, the Board found that element (d), “releasing” the trim stripper and causing it to expand and strip the trim from the trim cutting blade, was found in Smithwick’s use of scrap ejector 10 to hold the unwanted material against the anvil; by scrap ejector 10 being released and expanded so as to extend out beyond the edge of the cutting rule 112. A6, See also A80, fig. 5, A85, col. 3, ll. 55-67.

Simpson argued that claim 28 was not anticipated because Smithwick’s scrap

ejector is not “outside” the trim cutting blade. The Board rejected this argument, citing its reasoning with respect to the use of the terms “outside” and “outside trim piece” in claim 1, i.e., that “outside” corresponds to the area beyond the finished product boundary.

IV. SUMMARY OF THE ARGUMENT

Representative claim 1 recites a rotary cutting die for cutting corrugated board into product pieces. The disputed elements are (1) a trim cutting blade and (2) a trim stripper, which are mounted on the cutting die’s base.

Smithwick discloses all the claimed elements. Because trim is unwanted, i.e., non-product, material, the Board properly found that any blade that cuts unwanted material away from the product is a trim cutting blade. Smithwick’s U-shaped cutting rule is a trim cutting blade because it cuts unwanted material (called “scrap” by Smithwick) away from the product. Similarly, Smithwick’s scrap ejectors disclose a trim stripper, since a trim stripper is a device that engages and strips unwanted material away from the product and that is what Smithwick’s scrap ejectors do.

The claims require that the trim stripper be mounted outside the trim cutting blade. The Board’s interpreted the words “outside the trim cutting blade” to mean outside the boundary of the product portion cut by the cutting blades. Because Smithwick’s final product is a rectangular board with slots cut out, the space in the slot area is “outside” the boundary of the final product. Accordingly, the Board properly found that Smithwick’s scrap ejectors are located outside Smithwick’s U-shaped

cutting rules.

Finally the claims require that the trim stripper includes an “angled outer stripper surface.” The Board found, relying on Smithwick’s Figures 2 and 3, that the angled sidewalls of Smithwick’s scrap ejectors disclosed that element.

Simpson attempts to distinguish the claimed trim cutting blade and trim strippers from Smithwick’s cutting rule and scrap ejector by arguing that the unwanted material or “trim” cut and stripped in the claimed invention is distinct from the “scrap” of Smithwick. Simpson’s arguments are grounded on a mistaken premise, that his claimed rotary die is limited to a series of cutting blades in the form of a contiguous rectangle, which defines the product portion. Therefore, he argues, the U-shaped rule in Smithwick doesn’t cut trim at all but rather some other class of unwanted material. Despite Simpson’s assertions, nothing in his specification is inconsistent with the Board’s interpretation. Both Simpson’s trim and Smithwick’s scrap are unwanted material cut and stripped away from the final product.

Claim 28, argued separately by Simpson, is a method claim for using the rotary cutting die of claim 1. The arguments regarding claim 28 track the arguments regarding claim 1. For the reasons given above with respect to claim 1, the Court should affirm the Board’s decision with respect to claim 28.

Finally, although claim 3 was argued separately to the Board below, it appears the Board inadvertently failed to address claim 3 separately in its decision. This oversight can be corrected by remanding claim 3 to the USPTO after ruling on claims 1 and 28, where Simpson can request reconsideration of claim 3. Simpson currently

has over 25 other claims ready for allowance and not subject of this appeal.

V. ARGUMENT

A. Standard Of Review

Claim construction is a question of law. In re Roemer, 258 F.3d 1303, 1307, 59 USPQ2d 1527, 1529 (Fed. Cir. 2001). But during patent prosecution, claims are given their broadest reasonable interpretation. In re Hyatt, 211 F.3d 1367, 1372, 54 USPQ2d 1664, 1667 (Fed. Cir. 2000). Thus, this Court reviews the Board's interpretation of disputed claim language to determine whether it is "reasonable." In re Morris, 127 F.3d 1048, 1055, 44 USPQ2d 1023, 1028-29 (Fed. Cir. 1997).

The Board found that Smithwick anticipated Simpson's claims. Anticipation is a question of fact. In re Schreiber, 128 F.3d 1473, 1477, 44 USPQ2d 1429, 1431 (Fed. Cir. 1997). The Board's decisions on factual matters are upheld if there is substantial evidence in the record to support the Board's findings. In re Gartside, 203 F.3d 1305, 1315, 53 USPQ2d 1769, 1775 (Fed. Cir. 2000). Substantial evidence is "such relevant evidence as a reasonable mind might accept as accurate to support a conclusion." Consolidated Edison Co. v. NLRB, 305 U.S. 197, 229 (1938). And as this Court recently stated, "where two different, inconsistent conclusions may reasonably be drawn from the evidence in record, an agency's decision to favor one conclusion over the other is the epitome of a decision that must be sustained upon review for substantial evidence." In re Jolley, 308 F.3d 1317, 1329 (Fed. Cir. 2002).

B. Substantial Evidence Supports The Board's Finding That Representative Claim 1 Is Anticipated By Smithwick

In order for Smithwick to anticipate a claimed invention it must disclose every limitation in the claim. In re Bond, 910 F.2d 831, 832, 15 USPQ2d 1566, 1567 (Fed. Cir. 1990). At the same time, Simpson may not read limitations from his preferred embodiment into the claims in order to overcome a finding of anticipation. The Board found that representative claims 1 and 28 are anticipated by Smithwick.

1. Smithwick discloses every element in claim 1

Smithwick's Figure 2 shows every limitation in claim 1. A78. It is undisputed that the claimed "rotary cutting die" was disclosed by Smithwick's "rotary die cutter 100." A3-4. Likewise, Simpson does not contest that the claimed "base adapted to be mounted to a rotary cylinder" is Smithwick's "die board 110," which is adapted to mount Smithwick's "die roll 102."

The two disputed limitations are the "at least one trim cutting blade..." and the "at least one trim stripper...." First, the claimed "trim cutting blade" is disclosed by Smithwick's "U-shaped cutting rule 112." This U-shaped cutting rule is a blade secured on die board 110 for the purpose of cutting slots out of the final product. A85, col. 3, ll. 15-25. The cutting of this unwanted material from the product makes this blade a "trim cutting blade." Second, the claimed "trim stripper" is disclosed by Smithwick's "scrap ejector 10." Smithwick's scrap ejectors 10, also labeled "rubber ejectors/strippers," are used to strip the unwanted material cut by U-shaped cutting rule 112 from the product piece (or blank). A84, col. 1, ll. 21-29, A85, col. 3, ll.

26-28. This stripping of unwanted material from the desired product piece is what makes Smithwick's scrap ejector **10** a "trim stripper."

The Board also found that Smithwick teaches a trim cutting blade for "trimming an outside trim piece." A4-5. Substantial evidence supports that finding, because the U-shaped cutting blades **112** cut unwanted material away from the perimeter of Smithwick's final product, creating slot spaces. A78, A84, col. 1, ll. 16-23. Therefore Smithwick's U-shaped blade trims an outside trim piece from the corrugated board.

Similarly, the Board properly found that scrap ejector **10** disclosed by Smithwick is located "outside the trim cutting blade." A4. Again substantial evidence supports this finding. Because Smithwick's scrap ejectors **10** are on the side of U-shaped cutting rules **112** that is outside the final product area, each ejector is located outside a trim cutting blade. A4. In other words, Smithwick's scrap ejector **10**, i.e. trim stripper, is located outside the line of blades that are used to ultimately create the final product.

Finally, the "angled outer stripper surface" was found in Smithwick's Figures 2 and 3, A78-79. A3-A4. Scrap ejector **10**, as shown, has angled sidewalls **20** and **22**. These sidewalls are outer stripper surfaces, they extend outwardly and away from the cutting rule **112** and they satisfy the height requirement because they extend past the cutting rule **112**. A85 col. 3 lines 55-58, A4.

The claim chart below summarizes Smithwick's disclosure of the claimed invention.

Claim 1	Smithwick
1. A rotary cutting die for cutting corrugated board and trimming an outside trim piece from the corrugated board so as to yield a product portion:	Rotary cutting die 100 for trimming an outside trim piece from corrugated board. A77
(a) a base adapted to be mounted to a rotary cylinder	Base 108 adapted to be mounted to a rotary cylinder 102 . A78
(b) at least one <u>trim cutting blade</u> secured to the base and extending outwardly therefrom for trimming an outside trim piece from a sheet of corrugated board	Multiple cutting blades, including U-shaped cutting rules 112 used to cut outside trim from corrugated board to yield the product portion.
(c) at least one <u>trim stripper</u> mounted outside the trim cutting blade for engaging the trim piece and stripping the trim piece from the product portion, the trim stripper including an angled outer stripper surface that is angled outwardly and away from the trim blade in such a fashion that at least a portion of the angled outer stripper surface extends outwardly past the height of the trim blade.	Trim strippers 10 mounted outside boundary of the product area defined by the U-shaped cutting blades 112 . A78. Trim stripper 10 with angled sidewalls 20, 22 , with at least a portion of the outer stripper surface extending past the blades. A79; A85, col. 3, ll. 55-58.

C. Simpson's Arguments Cannot Overcome The Board's Findings

Simpson essentially makes two primary arguments, i.e., that Smithwick fails to disclose (i) the claimed "trim cutting blade" Br. 16-19, and (ii) the claimed "trim stripper" Br. 19-23. But Smithwick discloses both disputed elements, when the claim terms are given their broadest reasonable interpretation.

Simpson attempts to buttress his disclosure arguments by asserting that the Board failed to construe, or in the alternative, misconstrued the claim terms "outside" and "trim," as that term is used in "trim stripper," "trim cutting blade," and "outside trim piece." Br. 15-29. All these arguments fail, as is discussed more fully below,

because the Board reasonably construed the disputed terms and substantial evidence supports the Board's findings.

1. **The Board interpretation of "trim" (as used in "trim cutting blade," "trim stripper," and "outside trim piece") to mean unwanted material is reasonable**

Claim 1 must be given its broadest reasonable interpretation. The "broadest reasonable interpretation" rule recognizes that during an ex parte patent examination, the pending claims must be interpreted as broadly as their terms reasonably allow, which does not include reading limitations from the specification into the claims. See In re Zletz, 893 F.2d 319, 321, 13 USPQ2d 1320, 1321-22 (Fed. Cir. 1989) (contrasting mode of interpretation used by court in litigation from that applicable during prosecution); see also Morris, 127 F.3d at 1055, 44 USPQ2d at 1028-29. As this Court has explained, the rule "serves the public interest by reducing the possibility that claims, finally allowed, will be given broader scope than is justified." In re Yamamoto, 740 F.2d 1569, 1571, 222 USPQ 934, 936 (Fed. Cir. 1984).

In his opening brief, Simpson argues: (1) Smithwick's U-shaped cutting rule is not a "trim cutting blade;" (2) Smithwick's scrap ejector is not a "trim stripper;" and (3) the scrap cut away by Smithwick's U-shaped cutting rule to create a space in the final product is not "an outside trim piece." Br. 15-20. Simpson's arguments are entirely predicated on the claim construction of "trim," which the Board properly construed as unwanted material cut away from the board to create the final product. A4-5.

In response to Simpson's arguments below, regarding whether the scrap cut away by Smithwick's U-shaped cutting rule is an "outside trim piece," the Board interpreted that claim term to mean "a piece of material which is trimmed off the board from an exterior edge thereof." A4-5. Thus, in the Board's view, "trim" is any piece of unwanted (non-product) material that is cut away from the final product. Because the Board must give claim terms their broadest reasonable interpretation, and since Simpson does not provide a special definition for "trim" in his specification, the Board correctly gave "trim" its ordinary meaning. The dictionary defines trim as "to reduce by removing excess or extraneous matter." Webster's Third New International Dictionary (1993), 2445. Here the excess or extraneous matter removed is the unwanted (non-product) material cut away from corrugated board CB.

In his opening brief, Simpson's asserts a definition of "trim" that is not contrary to the Board's interpretation but would include only a subset of the unwanted material. Br. 17. Simpson only refers generally to his specification for proposing that "trim" means only an edge portion that is trimmed off the board, leaving the final product portion. Br. 16-17. Simpson does not cite to any definition in his specification to support his limited interpretation.⁴

⁴ Simpson also argues that the Board failed to take into account what the claims would mean to one of skill in the art. Br. 17, 18 and 23. These arguments can be discounted as merely that, argument without any support in the record. Application of Payne, 606 F.2d 303, 315, 203 USPQ 245 CCPA (1979) ("Arguments of counsel unsupported by competent factual evidence of record are entitled to little weight."); see also In re Epstein, 32 F.3d 1559, 1567, 31 USPQ2d 1817, 1822 (Fed. Cir. 1994) Likewise, Simpson's assertion that those skilled in the art would "readily understand"

2. Smithwick discloses a” trim cutting blade,” a “trim stripper,” and an “outside trim piece”

Given the Board’s interpretation of “trim” it follows that the claimed “trim cutting blade” is a blade that cuts “trim,” i.e., unwanted material, from the product portion of corrugated board **CB**. Further, Smithwick’s U-shaped rule **112** must be a trim cutting blade as it cuts unwanted material from the product. The board pieces cut by the U-shaped rules are clearly unwanted material because the purpose in performing the cuts is to create slots in the final product. A85, col. 3, ll. 15-18.

Likewise, the Board’s reasonable interpretation of “trim” leads to the conclusion that a “trim stripper” is a device that strips trim, i.e. unwanted material, away from the product portion of corrugated board **CB**. The claimed “trim stripper” is disclosed by Smithwick’s “scrap ejector **10**.” Smithwick’s scrap ejectors **10**, also labeled “rubber ejectors/strippers,” are used to strip the unwanted material cut by U-shaped cutting rule **112** from the product piece (or blank). A84, col. 1, ll. 21-29, A85, col. 3, ll. 26-28. This stripping of unwanted material (i.e., trim) from the desired product piece makes Smithwick’s scrap ejector **10** a “trim stripper.”

Substantial evidence supports the Board’s finding that the scrap cut away by Smithwick’s U-shaped cutting rule is “an outside trim piece” as claimed. Smithwick specifically teaches that the scrap is cut away from the exterior edges of the final product area, creating a final product with slot spaces. A85, col. 3, ll. 15-18.

Accordingly, Smithwick’s teachings support the Board’s finding that “we perceive

that Smithwick’s “rectangular ring of blades”, shown in Figure 2, “are the real trim blades” has no support in the record.

nothing in the strip scrap removed by the scrap ejector 10 which distinguished it from an ‘outside trim piece’ (i.e., a piece of material which is trimmed off the board from an exterior edge thereof).” A4-5.

Simpson’s argument that Smithwick’s scrap cut away by the U-shaped cutting rule is not “an outside trim piece” is based on an overly narrow reading of claim 1. Basically, Simpson argues that his claim reads only on a subset of unwanted material known as “trim” and that Smithwick only deals with another subset of unwanted material known as “scrap.” Simpson relies on his specification to support his argument, but nowhere in his specification does he provide a definition for “trim” that excludes Smithwick’s “scrap.” In fact, and to the contrary, Simpson’s specification uses the terms “scrap” and “trim” interchangeably, thereby supporting the Board’s finding that Smithwick’s scrap is also “trim.” See, e.g., A24, ll. 5-8 (“...as the cutting blade 44 moves into position and begins to penetrate the incoming blank of corrugated board CB, the blade effectively divides the blank into a trim or scrap region and a product region.”) (emphasis added).

Simpson’s argument hinges on his proposed distinction between unwanted, non-product, “trim” material and unwanted, non-product, “scrap” material. In Simpson’s view, the material cut away from Smithwick’s final product falls into two categories: (1) the scrap cut away by the U-shaped cutting rules; and (2) the “trim” cut away by the other cutting rules, which create a board with a square cut-out. Simpson’s separate categories of unwanted material, however, are not based on any teachings in the record, but instead predicated on the mistaken premise that Smithwick cuts away

two types of unwanted material in two separate operations, rather than in a single, simultaneous operation. Br. 18, 19 (“these U-shaped cutting rules operate on the product portion after the trim pieces have been cut and removed”), 20. In fact, it appears that Simpson believes that Smithwick’s final product is a perfect rectangle, and then in a second, subsequent operation, slot spaces are cut out of the final product. Br. 9 (“Thus, as the product portion passes through the nip of the rotary cutting die 100, the U-shaped cutting rules 112 cut slots or holes in the product portion and the scrap ejectors 10 engage the corrugated material cut by the cutting rules 112 and eject the cut material from the product portion.”), Br. 18-20.

Nothing in Smithwick, however, suggests that the U-shaped cutting rules cut unwanted material away at any time other than the exact same time that the other cutting rules cut away unwanted material. In fact, a mere inspection of Smithwick’s Figure 2 confirms that all the cutting rules necessarily work together in a single operation. Indeed, Simpson is unable to point anywhere in the record that suggests to the contrary. Accordingly, substantial evidence supports the Board’s finding that Smithwick’s scrap is “an outside trim piece.” In turn, because Smithwick’s U-shaped cutting rules cut away the “outside trim piece,” Smithwick teaches a “trim cutting blade.” Finally, because Smithwick’s scrap ejector directs the unwanted scrap away from the final product, Smithwick also teaches a “trim stripper.” A85, col. 3, ll. 64-67.

3. The Board’s interpretation of the phrase “one trim stripper mounted outside the trim cutting blade” is reasonable

In interpreting the phrase “trim stripper mounted outside the trim cutting

blade,” in claim 1 the Board construed “outside” to mean that the trim stripper is positioned on the side of the cutting blade that falls outside of the final product area.

A4. In other words, the trim stripper is mounted outside the line of cutting blades that are used to create the final product from the corrugated board. The Board also correctly pointed out that, since claim 1 does not provide any reference or description for defining which side of the trim cutting blade is outside or inside, either side may be considered as “outside.”

Simpson argues that the Board incorrectly construed “outside,” arguing that the term must be given its ordinary meaning. Citing to a dictionary definition, Simpson describes “outside” to mean a place or region beyond an enclosure or boundary. Br. 21. Simpson’s argument, however, is unavailing because the Board’s interpretation is completely consistent with that definition. As explained above, the Board interpreted “outside” to mean the area outside of the boundary of cutting blades that create the final product. See A4. See Morris, 127 F.3d at 1054 (“the PTO applies to the verbiage of the proposed claims the broadest reasonable meaning of the words in their ordinary usage as they would be understood by one of ordinary skill in the art”).

Thus, “outside the trim cutting blade” corresponds to the side of the blade occupied by the unwanted material. This is consistent with the other parts of the claim, which requires that the trim stripper located “outside” the trim cutting blade “engage” the trim (i.e., the unwanted material). Since the claimed trim stripper engages the unwanted material and resides outside the trim cutting blade, it follows that the unwanted (non-product) material is “outside.” Accordingly, the Board reasonably

interpreted the term “outside.”

4. Smithwick discloses a “trim stripper mounted outside the trim cutting blade”

Although Simpson claims that the Board misconstrued “outside,” Simpson’s contentions ultimately pivot on his reading of the Smithwick reference, and whether Smithwick’s scrap ejector, i.e., trim stripper, is located “outside” of the U-shaped cutting blade. Br. 21-23. Substantial evidence, however, supports the Board’s finding that Smithwick’s scrap ejector is positioned on the side of the U-shaped cutting rule that is “outside.”

Smithwick’s U-shaped cutting rules **112** are part of a contiguous line, i.e. boundary, of multiple cutting rules **112** that define and create the final product. A85, col. 3, ll. 6-25. The Board specifically found that Smithwick’s final product is “defined by the cutting rules forming a rectangular shape in combination with the U-shaped cutting rules forming the slots, not merely by the rectangular shape alone.” A4 n. 3. Thus, Smithwick’s final product is a shape that would otherwise be a rectangle except for the three slot spaces created by U-shaped cutting rules **112**. A85, col. 3, ll. 6-25.

As can be seen from Smithwick’s Figure 2 shown on the facing page, the Board correctly found that Smithwick teaches a “trim stripper mounted outside the trim cutting blade”:

[I]n that the scrap ejectors **10** are disposed on the sides of U-shaped cutting rules **112** which fall outside of the area defining the final product (a rectangular board having slots cut therein), each of the scrap ejectors

10 is mounted outside a trim cutting blade (U-shaped cutting rule) as called for in the claim.

A4 (emphasis added, footnote omitted). Thus, because Smithwick's U-shaped cutting rules 112 are part of the boundary of cutting rules that create the final product and scrap ejector 10 is mounted outside of that boundary, substantial evidence supports the Board's finding that Smithwick teaches a trim stripper located outside a trim cutting blade. Indeed, since the entire purpose of Smithwick's cutting rules is to define a final product away from unwanted material, it would have made little sense for the Board to find that the area within the boundary of cutting rules that create the final product, including the U-shaped cutting rules, is "outside."

Simpson argues that Smithwick's scrap ejector 10 is not "outside the trim cutting blade," because scrap ejector 10 is surrounded on three sides by U-shaped cutting rule 112 and has a different cutting rule 112 abutting the fourth side. Br. 22. The presence of the "straight" cutting blade near scrap ejector 10 is irrelevant, however, because the claim is drafted so broadly as to require only one "trim cutting blade" and for the "trim stripper" to be mounted outside that trim cutting blade. Therefore, the Board properly focused its inquiry on one cutting blade, the U-shaped cutting blade, and whether the scrap ejector is located inside or outside that cutting blade. A4. In other words, the question for the Board was: Does Smithwick disclose "at least one trim cutting blade?" If so, is "at least one trim stripper" mounted outside it? The Board found both in Smithwick, since the scrap ejector is "outside" the U-shaped cutting rule. Accordingly, Simpson's argument is based on an overly narrow conception of his drafted claim.

5. Smithwick discloses a trim stripper with “an angled outer stripper surface” that is “angled outwardly and away from the trim blade”

Simpson also argues that, even assuming that Smithwick scrap ejector is a trim stripper, the scrap ejector does not have an “angled outer stripper surface” that is “angled outwardly and away from the trim blade,” as recited in claim 1. Br. 23-25. The Board found that this limitation was satisfied by the shape and placement of Smithwick’s trim stripper. A3-4 (citing Smithwick Figures 2, 3, A78-79). Specifically, the Board found that “scrap ejector 10 includes a plurality of lugs 16 having a pair of angled side walls 20, 22 which extend radially outwardly to an outer contact face 24, one of the side walls being angled outwardly and away from the cutting rule 112.” A3-4. As Figures 2 and 3 show (see facing page), those findings are supported by substantial evidence. In attempting to overcome those findings, Simpson’s argument improperly incorporates unclaimed elements of his preferred embodiment into the claim language.

Simpson first argues that the “angled outer stripper surface” is not present in Smithwick because, in his view, the outer, contact surface of Simpson’s ejector is “flat-not angled.” Br. 24. Simpson compares his embodiment shown in his Figure 4A to Smithwick’s scrap ejector and argues that Smithwick does not anticipate the claim because “it is the outer flat-not angled-contact surface 24 [of Smithwick] that engages and ejects the material.” Br. 24. The language of claim 1, however, does not require that the angled surface engage and eject the non-product material. Instead, claim 1 recites only the presence of an angled outer stripper surface. The Board properly

found that Smithwick's scrap ejector **10** has angled outer surfaces **20** and **22**. But whether or not either of those surfaces engage and eject material is irrelevant because that feature is not claimed. Thus, Simpson's argument is misplaced.

Even accepting Simpson's contention that an angled outer surface must contact and eject the scrap, Simpson's argument still fails because Smithwick's outer contact faces **24** are angled with respect to the cutting rule. Viewing Smithwick's Figure 5, it is clear that, as mounted on the rotary base, Smithwick's stripper is curved so that each contact face **24** is set at a different angle with respect to the transverse blade of the U-shaped cutting rule. In addition, nowhere in the claim or the specification is it explained what the "angle" should be. Therefore, even the contact face **24** closest to the transverse blade is an "angled outer surface."

Simpson next contends that the angled outer surfaces **20** and **22** of Smithwick's scrap ejector **10** are not "angled outwardly and away from" the cutting rule **112**. Br. 24. Appellant relies on the "special relationship" between trim stripper and blade shown in his embodiment in Figure 4A to support this proposition. Br. 24. But that "special relationship," even if contemplated as part of the invention, is simply not claimed. Claim 1 recites only that the angled surface be angled outwardly and away from the blade. As already explained, Smithwick discloses this in Figures 2 and 3. A78-79. Smithwick's U-shaped cutting rule **112** has three sides, two elongated and one transverse. Figures 2 and 3 together show that the angled outer surface **20** is angled outwardly and away from the transverse side of the inverted U. That they may not be angled precisely as shown in the "special relationship" of Figure 4A is simply

irrelevant to the claim. Thus, the Board's finding that Smithwick's outer stripper surface **20** is angled away from the transverse side of U-shaped cutting rule **112** is supported by substantial evidence. A3.

D. Smithwick Discloses Every Element Of Method Claim 28

Claim 28 is essentially the method for using the cutting die of claim 1. Thus, since the Board found claim 1 anticipated by Smithwick, it is not surprising that the Board similarly found claim 28 anticipated by Smithwick.

Smithwick teaches every limitation of claim 28. It is undisputed that Smithwick teaches limitation (a), "directing" the corrugated board between the rotary cutting die and the rotating anvil. A6. (upper die roll **102** and lower anvil roll **104**) A77; A84, col. 2, ll. 61-64. Turning next to the disputed limitations. Smithwick teaches limitation (b), "engaging" an outside trim edge portion with the trim stripper, (scrap ejector **10** engaging scrap). A6. This can be seen from Figure 2 and the text of Smithwick ("As the scrap ejector **10** passes through the rotary die, it holds the scrap against the anvil cylinder **104** so that the scrap is stripped from the blank."). A85, col. 3., ll. 64-66. Smithwick also teaches element (c), "cutting" the trim from the board while compressing the trim stripper between the die and the trim. A6. That Smithwick's U-shaped cutting rule **112** cuts the board is undisputed. That it cuts trim is detailed above. That the trim stripper is compressed during the cutting can be seen from Figures 1 and 2 and the text of Smithwick ("When the scrap ejector **10** is compressed as the die moves into contact with a corrugated paper board, the scrap ejector is easily

deformed.”). A85, col. 3, ll. 58-62.

Finally, Smithwick teaches limitation (d), “releasing” the trim stripper as it passes between the anvil and the cutting die, causing it to expand and strip the trim from the trim cutting blade. A6. That U-shaped cutting rule 112 and scrap ejector 10 satisfy the limitations of trim cutting blade and trim stripper is explained above. That their relative action satisfies this limitation is seen in Smithwick. Smithwick’s scrap ejector 10 holds the unwanted material against the anvil as it passes through the nib between the rotating cylinders. The then compressed scrap ejector is released and expands so as to strip the unwanted material away from the U-shaped cutting blade 112. A80, Fig. 5, A85, col. 3, ll. 26-28; 55-67.

Simpson’s arguments regarding method claim 28 essentially mirror his arguments for claim 1 regarding the presence of a trim stripper and the meaning of claim terms “outside” and “trim.” Br. 27-29. The Board, in responding to those arguments, rejected them for the same reasons it gave with respect to claim 1. Likewise, as fully explained above, Simpson’s contentions for claim 28 are unavailing.

The Solicitor submits that if the Board correctly decided claim 1, it follows that the Board correctly rejected claim 28. Similarly, the Solicitor would agree that if the Board’s decision regarding claim 1 is reversed, then its decision on claim 28 should also be reversed.

E. The Board's Decision With Respect To Claim 3 Should Be Vacated

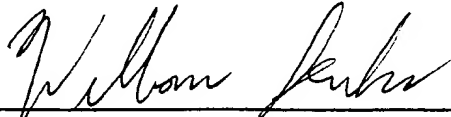
The Board affirmed the examiner's rejection of claim 3. A7. Simpson points out that some of the additional limitations of claim 3 were not addressed by the Board. Br. 26. The Solicitor agrees with Appellant. Here the Board apparently overlooked and did not respond to Simpson's specific arguments regarding claim 3. Simpson was entitled to that consideration. Therefore the Court should vacate and remand the Board's ruling with respect to claim 3 to the Board so that Simpson, if he chooses, may request reconsideration by the Board⁵.

⁵ The PTO, through the undersigned, offered to accept remand of this case to the Board for consideration of claim 3. Simpson's counsel declined.

VI. CONCLUSION

Substantial evidence supports the Board's findings that Smithwick discloses each element of claims 1 and 28. Therefore, the Court should affirm the Board's decision on those claims and claims depending therefrom. The Board's decision with respect to claim 3 should be vacated and remanded.

Respectfully submitted,



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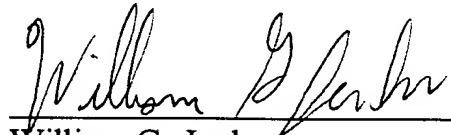
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I hereby certify that on November 26, 2002, I caused two copies of the foregoing BRIEF FOR APPELLEE DIRECTOR OF THE UNITED STATES PATENT AND TRADEMARK OFFICE to be transmitted via U.S. Express Mail, addressed as follows:

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